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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/527,182 | 04/29/2005 | Masahiko Tada | 05143/HG | 9981 |
| 1933 | 7590 | 12/14/2006 | | |
| FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 Fifth Avenue 16TH Floor NEW YORK, NY 10001-7708 | | | | |
| | | | EXAMINER SAVAGE, JASON L | |
| | | | ART UNIT 1775 | PAPER NUMBER |

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/527,182

Applicant(s)

TADA ET AL.

Examiner

Jason L. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10-25-06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 8-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102/103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-5, 7 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Masahiko et al (JP 2001-303226 English Machine Translation).

Masahiko teaches a galvanized steel sheet having a coated film with excellent adhesion (abstract). Masahiko further teaches that the steel sheet contains 0.05-0.20% C, 0.02-1.50% Si, 0.10% or less of P, 0.50-3.0% Mn, 0.007-0.25% Ti and 0.005-0.25% Nb (Detailed Description: par [0026]). Masahiko further teaches that at the interface 3 between the galvanized layer 2 and the base steel 1 a phase comprising needlelike irregularities 4 is formed (Detailed Description: par [0017] and Figure 1). Masahiko is silent to the depth, pitch and length of the irregularities.

However, as is disclosed by Applicant in the instant specification in the first full paragraph on page 20 and last paragraph on page 21, Si in the steel allows the formation of a continuous irregular portion at the interface and that when the concentration of C + P is less than or equal to the concentration of Si, the irregular portions are easily formed. Masahiko exemplifies multiple embodiments wherein the Si content is greater than the C + P content (See Table 1, Examples A-B, D, F-H, J-K, M-N, P-S, V). As such, one would expect the needlelike irregularities of Masahiko to have the depth, pitch and length as those claimed by Applicant. The Patent and Trademark

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Office can require Applicant to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on Applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 U.S.P.Q. 431 (CCPA 1977). In the alternative, forming a coated sheet having the irregular portions having the claimed structure would have been obvious.

Regarding claim 3, Masahiko exemplifies multiple embodiments having the claimed steel composition (Examples A-B, D, F-H, J, M-N, Q-S, V).

Regarding claims 4-5, Masahiko teaches that the steel sheet is heat treated to oxidize the surface of the steel sheet (Detailed Description: par[0047]). Although Masahiko recites that the oxide formed is iron oxide, it is the position of the Examiner that silicon oxide would formed immediately below the steel surface such as is claimed since Masahiko teaches a similar same steel alloy to that claimed by Applicant.

Regarding claim 7, Masahiko exemplifies multiple embodiments having the claimed Ti, Nb and V concentrations in the steel composition (Examples A-B, D, F-H, J, M-N, Q-S, V).

Regarding claim 17, Masahiko exemplifies multiple embodiments which satisfy the claimed ratio of the total concentration of Ti + Nb + V in comparison to the concentration of P in the steel composition (Examples D, F-H, J and N, Q-S, V).

Regarding claim 18, Masahiko meets the claim limitation since none of the embodiments contain any of the claimed elements, thus satisfying the limitation that the steel sheet contain less than the claimed maximums for each of the recited elements.

Claims 1 and 3-7 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshitsugu et al (JP 2000-290730 English Machine Translation).

Yoshitsugu teaches a galvanized steel sheet having a coated film with excellent adhesion strength (abstract). Yoshitsugu further teaches that the steel sheet contains 0.05-0.25% C, 2.00% or less Si, 1.00-2.5% Mn, 0.005 to 0.10% Al (Abstract - Solution). Yoshitsugu also teaches the contents of the added elements are desirably 0.08-0.15 wt% C, 0.5-1.0 wt% Si, 0.015 wt% or less P, 1.5-2.0 wt% Mn, 0.010 wt% or less S, 0.01-0.05 wt% Al, 0.005-0.10 wt% Nb, 0.01-0.20 wt% Ti (Detailed Description: par [0028-0035]). Yoshitsugu content is silent to the formation of irregular portions or the depth, pitch and length of the irregularities.

However, as was set forth in the rejection above, the concentration of Si and the concentration of C + P being less than or equal to the concentration of Si is what controls the irregular portion formation. Since Yoshitsugu teaches the same steel alloy

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including exemplifying multiple embodiments having the claimed Si concentration in comparison to C+ P, the irregular portions having the claimed structure would have been inherently formed (See Tables 1 and 2, Examples 1-25). The Patent and Trademark Office can require Applicant to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on Applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 U.S.P.Q. 431 (CCPA 1977). In the alternative, forming a coated sheet having the irregular portions having the claimed structure would have been obvious.

Regarding claims 3 and 6-7, Yoshitsugu teaches exemplifies multiple embodiments having the claimed steel composition (Examples 1-22 and 24-25).

Regarding claims 4-5, Yoshitsugu teaches that the steel sheet is heat treated to form an internal oxidation layer at the surface of the steel sheet which includes oxides of silicon (Detailed Description: par[0017-0018]).

Regarding claim 17, Yoshitsugu exemplifies an embodiment which satisfies the claimed ratio of the total concentration of Ti + Nb + V in comparison to the concentration of P in the steel composition (Example 23).

Regarding claim 18, Yoshitsugu meets the claim limitation since none of the embodiments contain any of the claimed elements which exceed the claimed maximums for each of the recited elements. Yoshitsugu further teaches embodiments such as Examples 21-22 which contain 0.1 wt % Mo.

Response to Arguments

Applicant's arguments filed 10-25-06 have been fully considered but they are not persuasive.

Claims 1, 3-5, 7 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Masahiko et al (JP 2001-303226 English Machine Translation).

Applicant argues on pages 12-13 of the Amendment that Masahiko does not disclose an interface between a galvanized layer and a base steel sheet on which the galvanized layer is formed with the claimed irregularity. Applicant further states that there is no teaching or suggestion of a shape (irregularity) of an interface between a galvanized layer and a base steel sheet. However, looking at Figures 1 and 2 of Masahiko, the interface 3 has irregularities 4 formed between the galvanized layer 2 and the base steel sheet 1. As such, Applicant's argument there is no teaching of such an irregularity between the layers is not persuasive. Furthermore, as set forth in the rejection above, since Masahiko exemplifies multiple embodiments wherein the Si content is greater than the C+P content which is a condition Applicant teaches is necessary to easily form the irregular structures, one would expect the irregularities of

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Masahiko to have similar structures to that claimed. Applicant has not provided any proof or reasoning of why one could not reasonably expect the irregularities to have the claimed structure.

Regarding claim 4, Applicant argues on page 13 of the Amendment that Masahiko does not teach the limitation that in the stage immediately before a coating layer is adhered, the base steel sheet is heat treated before the coating layer is adhered. Regarding the limitation of 'in a stage immediately before a coating layer is adhered', Masahiko teaches heat treating the base steel sheet before the coating layer is adhered, although it does not necessarily teach that it is performed in the stage immediately before coating. However, the claims are drawn to an article, not the method of making. Absent a teaching of the criticality or showing of unexpected results from the claimed heat treatment, one would have expected the heat treatment Masahiko to have been just as effective at preventing the silicon from being selectively oxidized on the surface of the base steel sheet. In Re Best

Applicant further argues that Masahiko does not disclose the formation of an oxide of silicon being formed immediately below the interface. However, since Masahiko subjects the base steel sheet to a heat treatment step just as that claimed by Applicant, one would have expected that the formation of the claimed oxide of silicon layer would have been inherent.

Applicant argues at the top of page 14 that although Masahiko teaches a preliminary heating step, it does not indicate a state of the Si and thus does not meet the claim limitations recited in claim 4 and 5. Applicant has provided no proof or

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reasoning why the Si in Masahiko would not meet the claim limitations for the reasoning set forth by the Examiner other than to point is not expressly recited in the reference.

Applicant goes on to point out on page 14 the advantageous results of the claimed product, however these results are not commensurate in scope with the claims. One would also expect for the article of Masahiko to exhibit similar desirable results since it has a structure similar to that claimed by Applicant.

Claims 1 and 3-7 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshitsugu et al (JP 2000-290730 English Machine Translation).

On pages 15-16, Applicant states that an irregularity of an interface between a galvanized layer and a base layer and a base steel sheet is not disclosed at all in Yoshitsugu. However, since Yoshitsugu exemplifies multiple embodiments wherein the Si content is greater than the C+P content which is a condition Applicant teaches is necessary to easily form the irregular structures, one would expect the irregularities of Yoshitsugu to have similar structures to that claimed. Applicant has not provided any proof or reasoning of why one could not reasonably expect the irregularities to have the claimed structure.

Applicant again points out the advantageous results of the claimed product, however these results are not commensurate in scope with the claims. One would also expect for the article of Yoshitsugu to exhibit similar desirable results since it has a structure similar to that claimed by Applicant.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

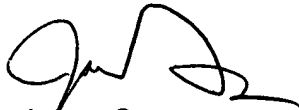
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Savage
12-8-06



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12/11/06